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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,311	08/03/2006	Toshio Kazama	80315(302753)	6871
21874	7590	10/22/2009		
EDWARDS ANGELL PALMER & DODGE LLP P.O. BOX 55874 BOSTON, MA 02205			EXAMINER GILMAN, ALEXANDER	
			ART UNIT	PAPER NUMBER
			2833	
			MAIL DATE	DELIVERY MODE
			10/22/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/588,311

**Applicant(s)**

KAZAMA ET AL.

**Examiner**

Alexander D. Gilman

**Art Unit**

2833

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/07/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-8 and 11-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-8 and 11-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Sobhani

Sobhani (US 5,746,606) discloses a needle-like member that constitutes a conductive contact which electrically connects a first object (17) , the needle-like member comprising:

a columnar member (11) having

a first end and a second end; a through hole extending entirely through the columnar member from the first end to the second end to form openings in said first end and in said second end;  
and

a contact member (15) integrally formed on the first end of the columnar member and  
configured to electrically contact with the first object wherein the through hole has hole portions with different inner diameters

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2833

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 11-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vinther in view of Kagami.

With regard to claims 6, 12, 16, 18, 22, 23, Vinther et al (US 6,396,293) disclose (Fig. 2)

conductive contact that electrically connects a first object to a second object, the conductive contact comprising:

a first needle-like member (18) that includes a columnar member having

a first end and a second end;

a through hole that connects the first end to the second end; and

a contact member (22) integrally formed with columnar member (claim 23) and configured to electrically contact with the first object and arranged

at the first end; and

a second needle-like member (34,36) that is arranged to electrically connect to the first needle-like member, and including a support member having a sliding portion (36) that is slidable in the longitudinal direction while being in contact with an inner surface of the through hole such that the entire sliding portion has a constant diameter; and

a spring member (16) that is fixed to the first needle-like member and surrounds an outer surface of the columnar member., and applies an elastic force on the second needle-like member present in the through hole.

Vinther et al do not disclose that the columnar member has the through hole portions forming openings in said first end and in said second end with different inner diameters and

Kagami et al (US 7,049,838) disclose the columnar member having the opened end (125) of the through hole with different inner diameter.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to enlarge the end of the through hole, as taught by Kagami, to meet a geometry of a first object terminals, particularly to conveniently contact solder ball (col. 5, lines 26-31, Kagami).

On the other hand, the spec does not disclose what is a functional necessity of the variation in the inner diameter of the hole, so it can be considered as a design alternative.

With regard to claims 13, 14, 19,20, 24, 25, Vinther et al disclose that the second object (col. 1, lines 4-11) is a circuit that generates and transmits an electrical signal to be supplied to the first object.

With regard to claim 15, 21, 26, 27, 6, Vinther et al disclose that the through hole has a constant diameter (Fig. 2,6).

With regard to claim 17, Vinther et al disclose that the second needle- like member includes a support member (36) that is slidable in the longitudinal direction while being in contact with an inner surface of the through hole; and a contact member (26) that is integrally formed with the support member, and configured to electrically contact with the second object.

With regard to claim 18, Vinther et al disclose (Fi. 2, 9) conductive contact unit comprising:

a conductive contact including a needle-like member that includes a columnar member (14) having a first end and a second end, a through hole that connects the first end to the second end, and a contact member (22) configured to electrically contact with an object; and a spring member (16) that biases the needle-like member in a direction perpendicular to the object; and a conductive contact holder (100) that includes a holder hole for accommodating the conductive contact.

With regard to claims 11, 28, Vinther et al disclose the contact member (22) is located near a periphery of the columnar member in a longitudinal direction to come in contact with a periphery of a connecting electrode of the first object.

### ***Response to Arguments***

Applicant's arguments with respect to claims 6, 12, 18 have been considered but are moot in view of the new ground(s) of rejection.

the reference does not teach a columnar member having a first end and a second end and a through hole extending entirely through the columnar member from the first end to the second end.

However, an element 30 having both ends opened was recited as a columnar member.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

Art Unit: 2833

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee S. Luebke can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander D Gilman/  
Primary Examiner  
Art Unit 2833

10/1809